

## CLAIMS

The following is claimed:

- 1           1.     A conveyor comprising:  
2                 a modular conveyor belt including:  
3                     a plurality of mat-top chains having a plurality of cavities; and  
4                     a plurality of first rollers disposed in the cavities of the mat-top  
5                 chains; and  
6                 at least one second roller that operatively couples to the first rollers such  
7                 that the first rollers rotate as the conveyor belt travels along the second roller.
  
- 1           2.     The conveyor as defined in claim 1, wherein the at least one second roller  
2                 is located underneath the conveyor belt and the at least one second roller rotates in a  
3                 direction transverse to the rotational direction of the first rollers as the conveyor belt  
4                 travels along the at least one second roller.
  
- 1           3.     The conveyor as defined in claim 1, wherein the at least one second roller  
2                 is positioned to rotate substantially perpendicular to the direction of belt travel.
  
- 1           4.     The conveyor as defined in claim 1, wherein the mat-top chains comprise  
2                 hinge elements that link multiple mat-top chains together to form a conveyor belt.
  
- 1           5.     The conveyor as defined in claim 4, wherein the hinge elements comprise  
2                 interleaved hinge elements having axially aligned holes.
  
- 1           6.     The conveyor as defined in claim 1, further comprising a plurality of  
2                 support members that supports the conveyor belt.

1           7.     The conveyor as defined in claim 1, wherein the at least one second roller  
2 is vertically displaceable toward or away from the conveyor belt, wherein when the at  
3 least one second roller is displaced toward the conveyor belt and engages the first rollers,  
4 the at least one second roller rotates the first rollers as the conveyor belt travels along the  
5 at least one second roller.

1           8.     A conveyor as defined in claim 7, wherein the at least one second roller is  
2 vertically displaced toward or away from the conveyor belt using an air actuator,  
3 hydraulic actuator, ball screw actuator, or solenoid actuator.

1           9.     The conveyor as defined in claim 1, wherein rotation of the at least one  
2 second roller causes the first rollers to rotate with reduced slippage.

1           10.    The conveyor as defined in claim 1, wherein the first rollers are aligned in  
2 the cavities of the mat-top at an angle that is different from the direction of belt travel  
3 enabling the first rollers to convey objects toward the sides or the middle of the conveyor  
4 belt.

1           11.    A conveyor comprising:  
2               a modular conveyor belt including:  
3               a plurality of mat-top chains having a plurality of cavities; and  
4               a plurality of first rollers disposed in the cavities of the mat-top chains;  
5 and  
6               at least one second roller that operatively couples to the first rollers such  
7 that the first rollers rotate and the at least one second roller rotates in a direction  
8 transverse to the rotational direction of the first rollers as the conveyor belt travels along  
9 the at least one second roller, wherein the rotation of the at least one second roller causes  
10 the first rollers to rotate with reduced slippage.

1           12.    The conveyor as defined in claim 11, wherein the at least one second roller  
2 is located underneath the conveyor belt.

1           13.    The conveyor as defined in claim 11, wherein the at least one second roller  
2 is positioned to rotate substantially perpendicular to the direction of belt travel.

1           14.    The conveyor as defined in claim 11, wherein the mat-top chains comprise  
2 hinge elements that link multiple mat-top chains together to form a conveyor belt.

1           15.    The conveyor as defined in claim 14, wherein the hinge elements comprise  
2 interleaved hinge elements having axially aligned holes.

1           16.    The conveyor as defined in claim 11, further comprising a plurality of  
2 support members that supports the conveyor belt.

1           17.    The conveyor as defined in claim 11, wherein the at least one second roller  
2 is vertically displaceable toward or away from the conveyor belt, wherein when the at  
3 least one second roller is displaced toward the conveyor belt and engages the first rollers,  
4 the at least one second roller rotates the first rollers as the conveyor belt travels along the  
5 at least one second roller.

1           18.    A conveyor as defined in claim 17, wherein the at least one second roller is  
2 vertically displaced toward or away from the conveyor belt using an air actuator,  
3 hydraulic actuator, ball screw actuator, or solenoid actuator.

1           19.    The conveyor as defined in claim 11, wherein the first rollers are aligned  
2 in the cavities of the mat-top at an angle that is different from the direction of belt travel  
3 enabling the first rollers to convey objects toward the sides or the middle of the conveyor  
4 belt.

1           20.    A method for conveying objects, the method comprising:  
2                   driving a modular conveyor belt in a direction of belt travel;  
3                   rotating a plurality of first rollers disposed in the modular conveyor belt in  
4           a manner in which slippage of the first rollers is reduced; and  
5                   conveying objects on the conveyor belt using the rotating first rollers.

1           21.    The method as defined in claim 20, wherein rotating the first rollers  
2           comprises engaging the first rollers with the at least one second roller as the conveyor belt  
3           travels along the at least one second roller.

1           22.    The method as defined in claim 20, wherein rotating the first rollers  
2           comprises rotating the first rollers by rotating the at least one second roller in a direction  
3           substantially transverse to the rotational direction of the first rollers as the conveyor belt  
4           travels along the at least one second roller.

1           23.    The method as defined in claim 20, wherein rotating the first rollers  
2           comprises selectively rotating the first rollers with the at least one second roller.

1           24.    The method as defined in claim 23, wherein selectively rotating the first  
2           rollers comprises vertically displacing the at least one second roller toward the conveyor  
3           belt and engaging the first rollers, the at least one second roller rotating the first rollers as  
4           the conveyor belt travels along the at least one second roller.

1           25.    The method as defined in claim 20, wherein rotating the first rollers  
2           comprises rotating the first rollers at an angle that is different from the direction of the  
3           belt travel.

1           26.    The method as defined in claim 20, wherein conveying objects on the  
2           conveyor belt comprises conveying objects toward the sides or the middle of the modular  
3           conveyor belt.